

HYGIENE OF FEED AND FEED ADDITIVES FOR PRODUCTIVE AND NON-PRODUCTIVE ANIMALS

SYLLABUS OF THE EDUCATIONAL COMPONENT



specialty	211 veterinary medicine	compulsory nature of the discipline	selective
educational program	veterinary medicine	faculty	veterinary medicine
educational level	Master's degree	department	department of sanitation, hygiene, and forensic veterinary medicine

LECTURER

Degtyarov Mykola Oleksandrovych

Higher education – specialty in veterinary medicine

Academic degree – candidate of veterinary sciences in the specialty 16.00.06 – animal hygiene and veterinary sanitation

Academic title – associate professor

Work experience – 42 years

Indicators of professional activity related to the course:

- Author of scientific publications on the department's topics
- Developer of methodological materials
- Participant in scientific and methodological conferences

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The following are involved in teaching the discipline: associate professor, candidate of veterinary sciences, Zhylina V.M.;

GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

Objective	The ability to form a comprehensive understanding of providing students with the necessary theoretical knowledge and practical skills regarding the techniques for obtaining and preparing research on feed samples, feed additives, as well as to form a comprehensive understanding of the subject, objects, and modern methods of determining the quality and safety of feeds and feed additives to ensure animals receive complete feeds and enhance their productivity.
Format	lectures, seminar sessions, independent work, individual assignments.
Details of learning outcomes and forms of their assessment	• Ability to conduct research at the appropriate level, apply knowledge in practical situations, use tools and special devices for performing specific manipulations during the execution of professional tasks (GC2, GC3, GC6, SC2, SC4, SC19, PLO7) / individual practical sessions. • Ability to conduct organoleptic and laboratory testing of food products (GC1, GC2, SC1, SC2, SC8, SC11, SC19, PLO7, PLO8) / individual practical sessions. • Understand and clarify the specifics of conducting bacteriological studies to form conclusions about the safety of products (GC2, GC3, SC1, SC2, SC8, SC11, SC19, PLO7, PLO8) / individual practical sessions. • Ability for abstract thinking, analysis, synthesis, searching, and processing information from various sources. • (GC1, PLO7) / individual practical sessions.
Volume and forms of assessment	3 ECTS credits (90 hours): 12 hours of lectures, 18 hours of laboratory and practical sessions; hours of independent work, current assessment (2 chapters); final assessment – differentiated credit.
Teacher's requirements	Timely completion of tasks, active participation
Conditions for crediting	According to the curriculum

COMPLEMENTS THE STANDARD OF EDUCATION AND THE EDUCATIONAL PROGRAM

Competencies	GC1. Ability for abstract thinking, analysis, and synthesis. GC3. Knowledge and understanding of the subject area and profession. GC8. Ability to work in an international context and understand the structure of interaction between the state veterinary service and international partners. GC10. Commitment to environmental preservation. SC2. Ability to work with national and international regulations, scientific papers, methodological developments, recommendations, instructions, etc. SC5. Ability to research food products and feeds using organoleptic and instrumental methods to determine their safety and quality. SC7. Ability to plan and carry out control, as well as monitor the production, storage, processing, and sale of food products, feeds, feed additives, premixes, by-products,	Program learning outcomes	PLO1. Apply methods of analysis, synthesis, and modern learning in the field of veterinary hygiene, sanitation, and expertise. PLO2. Understand the structure of professional activity and use research methods in the field of veterinary hygiene, sanitation, and expertise. PLO5. Conduct selection, preservation, packaging, and shipping of samples of animal, plant, and biotechnological origin for the study of food products, feeds, feed additives, premixes, etc., using organoleptic and laboratory methods to determine their safety and quality in accordance with regulatory acts, using the necessary reagents, instruments, and equipment. PLO7. Apply knowledge and practical skills regarding the basics of organizing veterinary affairs, office management, veterinary deontology, and psychology. PLO10. Evaluate and control the implementation of state audits
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veterinary drugs, and veterinary medicines, and evaluate their safety and quality.

SC9. Ability to conduct state audits at controlled facilities for the production, processing, and circulation of food products, feeds, feed additives, premixes, veterinary drugs, by-products in accordance with the food safety management system (HACCP/ISO 22000), and monitor the critical control points (CCPs) during production.

SC13. Ability to carry out veterinary and sanitary control over the production and circulation of feeds, feed additives, premixes, etc., at controlled facilities, apply methods of their research, and perform sanitary evaluations.

SC19. Ability to address general veterinary prevention issues at enterprises involved in animal product production and processing, including veterinary and sanitary assessment of animal housing systems and methods, feed safety, technological equipment, animal care and feeding methods, and ensuring proper sanitary conditions of livestock facilities.

at controlled facilities for the production and circulation of food products, feeds, feed additives, premixes, veterinary drugs, by-products, etc., in the case of applying food safety management systems (HACCP/ISO 22000) or procedures based on HACCP, and control the monitoring system for each CCP during production, monitoring of veterinary and immunobiological drugs, contaminants in food products and feeds.

PLO11. Participate in planning the production and financial activities of controlled facilities under market conditions, as well as control compliance with hygiene requirements during the production of safe food products, feeds, and feed additives, guided by current regulations of Ukraine, the requirements of the Codex Alimentarius, the "hygiene package" of the EU, and other international regulations.

PLO20. Ensure the objectivity and reliability of conducting veterinary and sanitary assessments of systems and methods of animal housing, care, feeding, watering, and operation, as well as maintaining proper sanitary conditions of livestock facilities, storage of feeds and feed additives, and the operation of technological equipment.

STRUCTURE OF THE EDUCATIONAL COMPONENT

Chapter 1

GOOD MANUFACTURING AND TRADING PRACTICES OF FEED AND FEED ADDITIVES IN THE CONTEXT OF THEIR SAFETY AND QUALITY ACCORDING TO UKRAINIAN LEGISLATION. QUALITY EXPERTISE OF FEEDS AND FEED ADDITIVES AND RAW MATERIALS FOR THEIR PRODUCTION IN THE FEEDING OF MAMMALS AND POULTRY.

Lecture 1	Legislation of Ukraine in the field of feed and feed additives safety and quality. The law of Ukraine "on feed safety and hygiene." hygienic requirements of the technical regulation "on the use of feeds and additives in the feeding of mammals and poultry.	Laboratory-practical session 1 (LPS 1)	General principles of hygienic expertise of feeds, feed additives, and raw materials for productive and non-productive animals. Hygienic requirements for quality control during feed production.	Self-Study Work	Writing abstracts and public speeches. Organization of work in the field of standardization to ensure the safety of feeds and feed additives. Procedure for declaring feeds and feed additives Veterinary and hygienic requirements for feed by-products during the processing of plant and animal raw materials. Veterinary and hygienic requirements for microbiological feed ingredients.
Lecture 2	Principles and rules of good manufacturing practice (gmp) and good hygienic practice (ghp) during feed production at enterprises and farms. State standard and enhanced veterinary and sanitary control of feeds, feed additives, and premixes	LPS 2	Sampling of feeds for research. Hygienic evaluation of compound feeds and premixes in a veterinary medicine laboratory.		

	in Ukraine.			
Lecture 3	Organization of veterinary and sanitary expertise of feeds and feed additives. Certification of feeds and feed additives, procedure for conducting.	LPS 3 LPS 4	Sanitary and hygienic control of the environment, water, forage plants, and plant raw materials. Sanitary and hygienic evaluation of feeds (organoleptic and physical indicators) Determination of crude protein and fat in feeds. Determination of amino acid composition of proteins, vitamins, and mineral substances in feeds and feed additives.	
Chapter 2. ASSESSMENT OF THE SAFETY OF FEEDS, FEED ADDITIVES, AND RAW MATERIALS FOR THEIR PRODUCTION. SANITARY-MYCOLOGICAL, TOXICOLOGICAL, AND RADIOLOGICAL ANALYSIS OF FEEDS DURING EXPORT AND IMPORT. IDENTIFICATION SIGNS AND ADULTERATION OF FEEDS AND FEED ADDITIVES				
Lecture 4	General characteristics of feed safety indicators. General information on the microflora of pastures, rough feeds, grains, grain forage, compound feeds, silage, haylage, and root crops	LPS 5	General characteristics of feed safety indicators. General information on the microflora of pastures, rough feeds, grains, grain forage, compound feeds, silage, haylage, and root crops	Preparation of multimedia presentations and reports with speeches. Microflora of protein feeds of animal and plant origin. Microflora of waste from industrial productions and its sanitary-hygienic significance. Hygiene and prevention of animal diseases related to the presence of toxic substances in feeds. Recipes for differential diagnostic nutrient media for the detection and identification of pathogenic microflora in feeds. Recipes for nutrient media for the identification of pathogenic fungi and toxins
Lecture 5	Modern methods for assessing the safety indicators of feed additives. Sanitary-mycological, toxicological-biological, and radiological characteristics of feeds and feed additives.	LPS 6	Modern methods for assessing the safety indicators of feed additives. Sanitary-mycological, toxicological-biological, and radiological characteristics of feeds and feed additives.	
Lecture 6	Identification signs and adulteration of domestic and imported feeds and feed additives Procedure for conducting phytosanitary expertise of feed additives Organization of veterinary and sanitary expertise of feeds and feed additives	LPS 7 LPS 8	Toxicological-biological analysis of feeds and feed additives. Methods for analyzing the radiation safety of feeds and feed additives Identification signs and adulteration of domestic and imported feeds and feed additives. Procedure for conducting phytosanitary expertise of feed additives	

	additives.	LPS 9	Organization of veterinary and sanitary expertise of feeds and feed additives.	
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PRIMARY LITERATURE AND ELECTRONIC RESOURCES

Literature	1. Атлас ветеринарно-санітарного інспектування продуктів забою тварин / [І.В. Яценко, Н.М. Богатко, І.А. Бібен, Л.В. Бусол, В.Я. Бінкевич, Н.М. Зажарська, Н.П. Головка, В.М. Кириченко]. Харків: РВВ Харківської державної зооветеринарної академії, 2015. 384 с. 2. Гігієна молока і молочних продуктів. Частина 2. Гігієна молочних продуктів: Підручник / [І.В. Яценко, Н.М. Богатко, Н.В. Букалова, Т.І. Фотіна, І.А., Бібен, О.М. Бергілевич, В.Я. Бінкевич, Ю.Р. Гачак, С.А. Ткачук, В.В. Кам'янський, М.М. Бондаревський, Н.М. Зажарська, І.Л. Цивірко, О.І. Касяненко]. Харків: Діса плюс, 2016. 424 с. 3. Гігієна молока і молочних продуктів. Частина 1. Гігієна молока: Підручник / [І.В. Яценко, Н.М. Богатко, Н.В. Букалова, Т.І. Фотіна, І.А. Бібен, О.М. Бергілевич, В.Я. Бінкевич, Ю.Р. Гачак, С.А. Ткачук, В.В. Кам'янський, М.М. Бондаревський, Н.М. Зажарська, І.Л. Цивірко, О.І. Касяненко]. Харків: Діса плюс, 2016. 416 с. 4. Гігієна рослинних харчових продуктів: Підручник / І.В. Яценко, Н.М. Богатко, І.А. Бібен, М.М. Бондаревський, В.В. Кам'янський, В.Я. Бінкевич, С.А. Ткачук, Т.І. Фотіна, Н.В. Букалова, Н.М. Зажарська. Харків: РВВ ХДЗВА, 2015. 427 с. 5. Яценко І.В., Богатко Н.М., Букалова Н.В., Фотіна Т.І., Бібен І.А., Бінкевич В.Я., Труш А.М., Петров Р.В. Гігієна і експертиза харчових тваринних гідробіонтів та продуктів їх переробки. Частина 1. Гігієна і експертиза рибопромислової продукції: Підручник. Харків: «Діса Плюс», 2017. 680 с.	1. Про ветеринарну медицину: Закон України від 25.06.1992 № 2498-XII. URL: https://zakon.rada.gov.ua/laws/show/2498-12#Text. 2. Про вилучення з обігу, переробку, утилізацію, знищення або подальше використання неякісної та небезпечної продукції: Закон України від 14.01.2000 № 1393-XIV. URL: https://zakon.rada.gov.ua/laws/show/1393-14#Text. 3. Про державний контроль за дотриманням законодавства про харчові продукти, корми, побічні продукти тваринного походження, здоров'я та благополуччя тварин: Закон України від 18.05.2017 № 2042-VIII. URL: https://zakon.rada.gov.ua/laws/show/2042-19#Text 4. Порядок видачі ветеринарних документів: постанова Кабінету Міністрів України від 21.11.2013 № 857. URL: https://zakon.rada.gov.ua/laws/show/857-2013-%D0%BF#Text.
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EVALUATION SYSTEM

	SYSTEM	POINTS	ACTIVITY THAT IS ASSESSED
Final assessment (different credit, exam)Final evaluation	100 ECTS points (standard)	up to 100	40 % - Final testing
			60 % - student's current work during the semester
Final assessment (non-differential credit)	100 points ECTS (standard)	up to 100	100 % - average grade for sections
Rating of section	100 points total	up to 30	30 % - answers to test questions
		up to 30	30 % - the result of mastering the block of independent work
		up to 40	40 % - student activity in class (oral answers)

NORMS OF ACADEMIC ETHICS AND INTEGRITY

All participants in the educational process (including students) must adhere to the code of academic integrity and the requirements stipulated in the regulation "On Academic Integrity of Participants in the Educational Process of SBTU": to demonstrate discipline, good manners, respect each other's dignity, show kindness, honesty, and responsibility.